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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,101	05/31/2002	Hirokuni Shirono	220644US0PCT	5031

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EXAMINER

NGUYEN, NGOC YEN M

ART UNIT PAPER NUMBER

1754

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/088,101

Applicant(s)

SHIRONO ET AL.

Examiner

Ngoc-Yen M. Nguyen

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 58-185,405.

JP '405 discloses micropowder contains amino group and hydrophobic group on its surface, the specific surface area is greater than 50 m<sup>2</sup>/g. The micropowder is silica, alumina, titania or their compound oxides. In the example, 20 parts by weight of Aerosil with surface area of 200 m<sup>2</sup>/g are mixed with 2 parts by weight of gamma-amino-propyl triethoxysilane (MW = 227) with stirring and heating at 110°C. The amount of amino group per 100 g of silica is calculated out to be, based on 100 g of silica basis:  
(2 g silane compound/ 20 g of silica) (1 mole/227 g) (1000 mmole/1 mole) = 44 mmol.

This value is well within the claimed range.

Since the product of JP '405 was made by the same method used to make the claimed product, the product of JP '405 would inherently have the same properties as those of the claimed product, such as the adsorption amount of the anion source compound, the low viscosity when the product is slurried in a solution.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-178384.

JP '384 discloses a silica which has been surface-treated with a silane coupling agent is contained in the recorded face of a recorded material (such as an ink jet recording system), thus improving the light resistance of an image made of water-soluble dye. The silane coupling agent having organic functional groups of epoxy, amino, etc.

The surface area of the silica can be 100 m<sup>2</sup>/g (note page 6, upper right column). In Table 1, A-1110 coupling agent is used (aminopropyl trimethoxysilane, MW = 191). For 100 parts of silica, 10 parts of the coupling agent can be used (note 4<sup>th</sup> run), which is calculated out to be about 52 mmole of A-1110 per 100 g of silica.

The difference is JP '384 does not specifically disclose that the silica is fumed silica. However, it would have been obvious to one of ordinary skill in the art to select any commercially available silica with the desired properties to produce the surface-treated silica suitable for recording material as desired in JP '384.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '405 in view of JP '384 or alternatively JP '384 in view of JP '405.

JP '384 and JP '405 disclose silica products as stated above.

It would have been obvious to one of ordinary skill in the art to use the product of JP '405 as a material for the inkjet recording material as suggested by JP '384 because such use is known and desirable in the art.

Alternatively, it would have been obvious to use fumed silica (such as Aerosil) as suggested by JP '405 as the silica material for the process of JP '384 because Aerosil has the desired properties, such as surface area, suitable for being used as the starting material for the surface treated silica of JP '384.

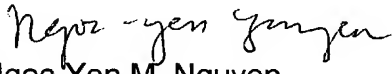
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stan Silverman can be reached on (571) 272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed (571) 272-1700.

  
Ngoc-Yen M. Nguyen  
Primary Examiner  
Art Unit 1754

nmn

September 20, 2004